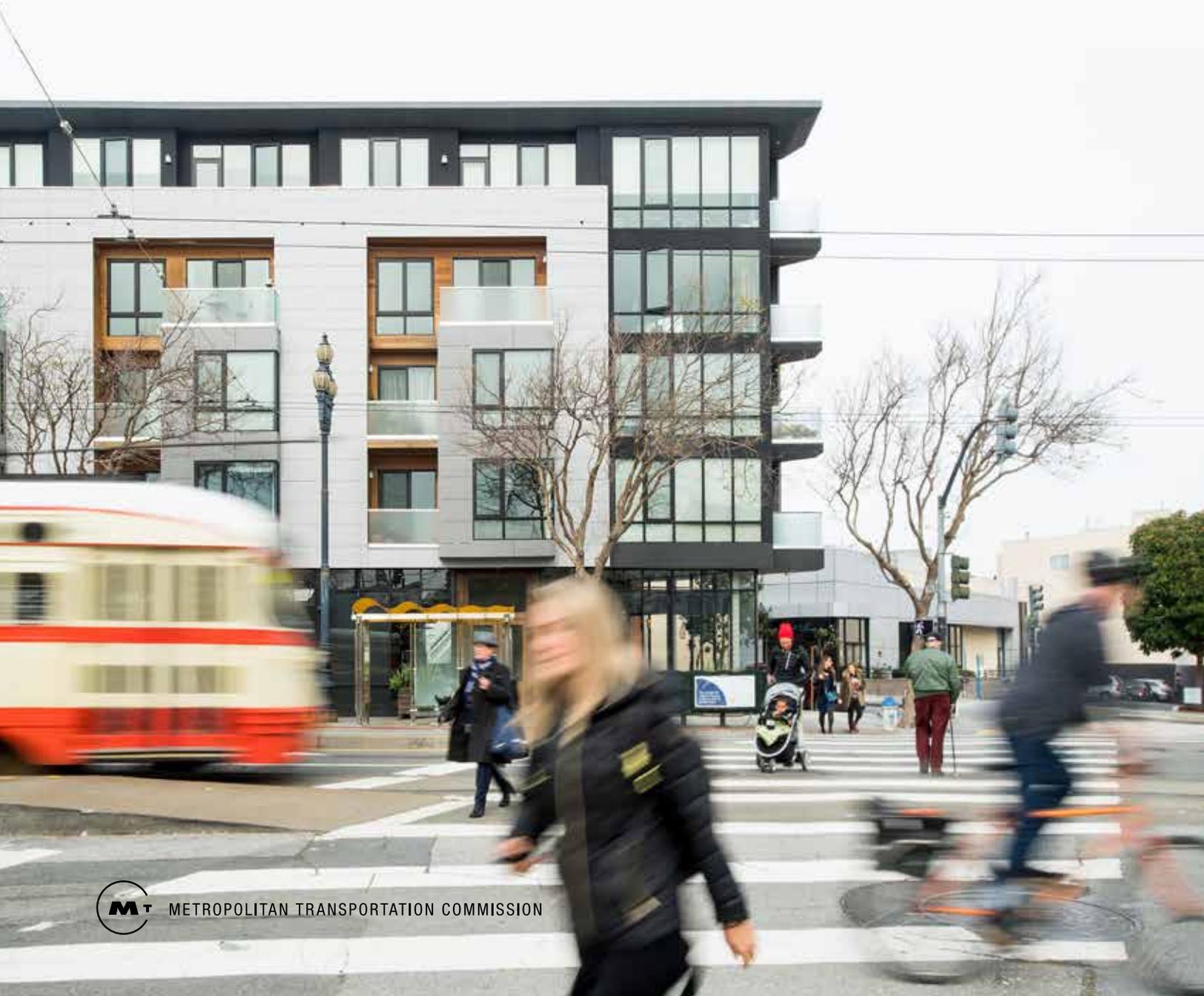


Keeping the FAST Act Promise: Smart Priorities for a Strong Bay Area

38th Annual Report to Congress

March 2017



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METROPOLITAN TRANSPORTATION COMMISSION

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415.778.6700 tel
415.536.9800 fax
415.778.6769 tty/tdd

Bay Area Metro Center
375 Beale Street, Suite 800
San Francisco, California 94105

info@mtc.ca.gov
www.mtc.ca.gov

San Francisco Bay Area: Transportation and Land Uses

- Urbanized Area
- Publicly Owned Parks and Open Space
- Priority Development Area (PDA) — **Planned**
- Priority Development Area (PDA) — **Potential**
- Priority Conservation Area (PCA)

ROADS

- Freeway
- Major Road

RAIL SYSTEM

- Altamont Corridor Express
- Amtrak
- BART
- Caltrain
- Light Rail (Muni & VTA)
- Cable Car (Muni)

Oakland

- > 350,000
- 50,000–350,000
- < 50,000

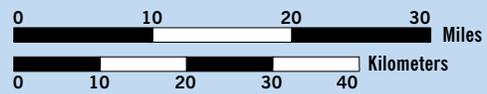


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Fully Fund the FAST Act

MTC urges Congress to protect the progress made in the Fixing America’s Surface Transportation (FAST) Act. Adopted in 2015, the FAST Act provides long-term certainty for core federal highway and transit programs and preserves flexibility to keep the Bay Area moving.

With a booming economy, the Bay Area’s roads, bridges, trains and buses are moving a record number of goods and people.

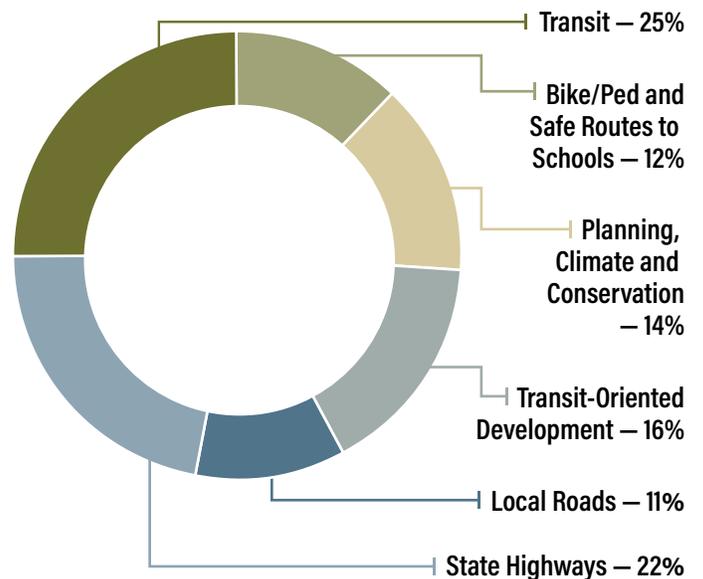
While federal dollars account for only 10 percent of the Bay Area’s total transportation investments, this funding is critical to public transit, road repair, safety and mobility projects throughout the Bay Area. The following FAST Act funding commitments are the most critical:

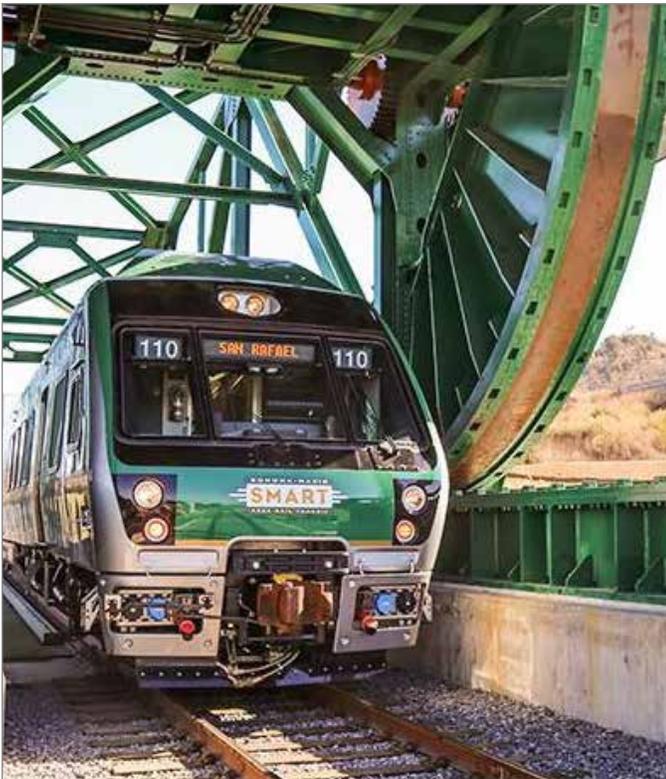
- ▶ **Capital Investment Grants (New Starts/Small Starts/Core Capacity):** Congress authorized \$2.3 billion annually for transit expansion and capacity improvements across the nation. The Bay Area’s future transit expansions depend on significant federal investment; the region has six major projects requesting approximately \$4.5 billion in Capital Investment Grant funding commitments through 2020 (see page 17).
- ▶ **Transit formula funding:** Bay Area transit agencies are forecast to receive approximately \$1.8 billion in core transit formula funding between 2017–2020, which is essential to maintain the region’s aging transit capital infrastructure.



The Golden Gate Bridge suicide barrier will be funded in part with STBG Program dollars. (Rendering: Courtesy of the Golden Gate Bridge, Highway and Transportation District)

STBG and CMAQ in the Bay Area (2013–2017 programming by use)





The Sonoma-Marín Rail Transit (SMART) Larkspur extension received a 5309 Small Starts commitment in 2016.

(Photo: Courtesy of SMART)

► **Surface Transportation Block Grant (STBG)**

Program: The FAST Act restores a growing share of this flexible funding source to metropolitan regions where it will provide the greatest mobility and economic benefits. The Bay Area will receive \$98 million in STBG funds by fiscal year (FY) 2020, a \$15 million increase from FY 2015.

► **Congestion Mitigation and Air Quality Improvement (CMAQ) Program:**

By 2020, the Bay Area will receive approximately \$74 million in CMAQ funds. MTC leverages these funds, along with STBG dollars, to deliver air-quality and mobility improvements throughout the region.



Bay Area
Commuter Benefits Program



Carpool commuters find a better way to work.

(Photo: Stefano Lunardi/Getty Images)

Protect Federal Commuter Benefits

MTC urges Congress to protect and expand the federal qualified transportation fringe benefit.

More than 1.4 million Bay Area employees currently receive employer-provided incentives that ease commutes by increasing access to alternatives to driving alone. This number is only expected to grow following enactment of state legislation last year to make the Bay Area Commuter Benefits Program permanent.

The Program, administered by MTC and the Bay Area Air Quality Management District, promotes congestion-reducing commute modes such as transit, ride-sharing and bicycling by requiring large employers to provide commuter benefits. Most employers choose to offer employees the opportunity to pay for transit or vanpooling with pre-tax dollars, as allowed by federal law. However, the existing federal law does not include newer and increasingly popular options, such as the expanding Bay Area Bike Share [see page 24] and shared ride carpools, as eligible commute modes.

Updating the federal benefit in response to these new technology-enabled commuting options — many of which are being pioneered in the Bay Area — will improve mobility, air quality and the economy in the region and nationwide.

MTC's Priorities for a National Infrastructure Initiative

A national infrastructure initiative to modernize our nation's highways, ports, trains, buses and housing stock will grow the economy and reduce congestion.



(Photo: Noah Berger)

The Bay Area is prioritizing infrastructure investment.

Eight out of nine Bay Area counties have adopted local sales tax measures dedicated to transportation purposes, and this past November, local voters again taxed themselves to invest in transportation and affordable housing infrastructure (see page 17 for more). But with a \$96 billion backlog — funding needed just to bring the region's roads, bridges and transit systems into a state of good repair — the twin challenges of maintaining the existing system and growing to meet new demand are too great to overcome without a strong federal partner.

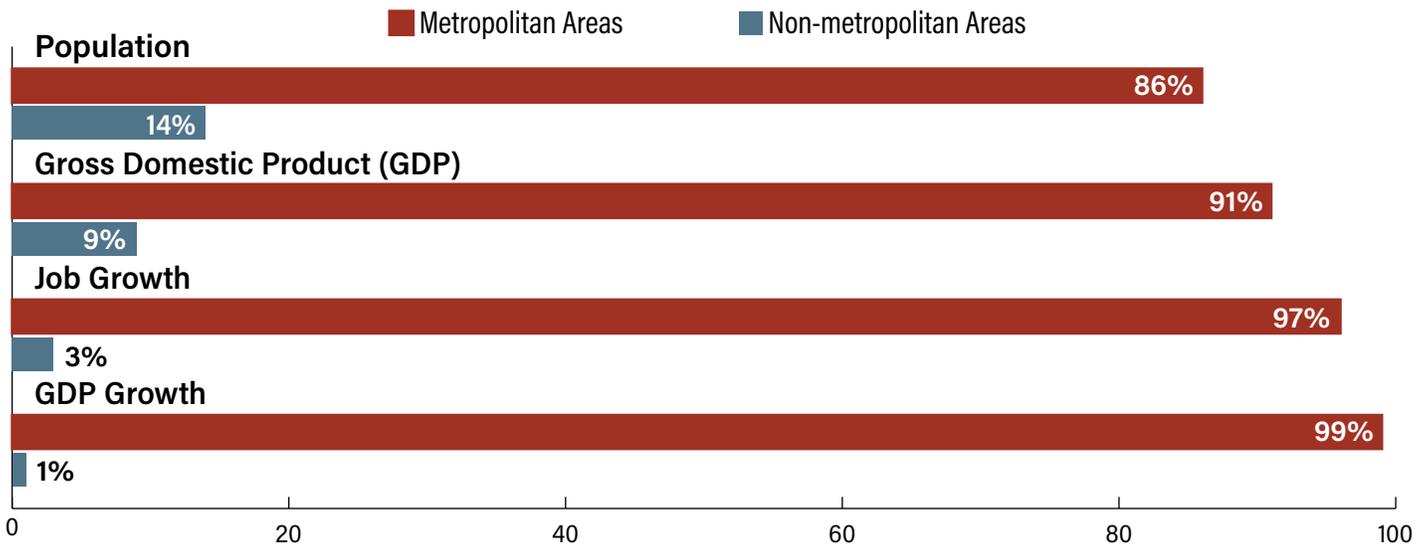
The Bay Area is creating new jobs, inspiring innovation and strengthening the national economy despite decades of neglect and underinvestment in our nation's transportation system. Increasingly, residents face congested highways and long commutes. Communities across the country are experiencing similar challenges that are threatening the middle class and limiting the nation's ability to remain globally competitive.

MTC recommends the following principles to guide the development of a national infrastructure initiative:

- 1. Restore the Highway Trust Fund's solvency.** Any package should include new revenues to make the Highway Trust Fund solvent after 2020. Innovative financing tools can play an important role but cannot replace direct federal investment in major infrastructure projects.
- 2. Invest in existing programs.** An infrastructure package should grow core highway and transit programs authorized under the FAST Act. Surface transportation programs, both formula and discretionary, provide essential funds for states and regions to address pressing state of good repair and capital investment needs.
- 3. Target funding to metropolitan regions.** These areas drive the nation's economy and require substantial infrastructure investment to accommodate future growth. Providing flexible funding directly to metro areas will empower local communities to deliver a smarter, cleaner transportation future.

United States Metro Economies

(% Share of 2015 National Economic Indicators)



Source: United States Conference of Mayors. (2016). *GMP and Employment Report: 2015-2017*.

4. Shorten project delivery time. Project reviews by multiple agencies can add months or even years to projects. Consider expediting process and permit reviews without diminishing environmental standards and safeguards.

5. Prioritize regionally- and nationally-significant projects. Invest in competitive grant funding for mega-projects that improve freight and commuter mobility across all modes, provide congestion relief, improve safety, and build resiliency against extreme weather and climate change.

6. Increase housing supply. Housing prices — driven by demand that has far outpaced supply — have pushed residents farther and farther away from job centers, contributing to record congestion levels. A funding package should expand existing affordable housing grant and tax credit programs to generate new housing supply, especially near job centers and transit.



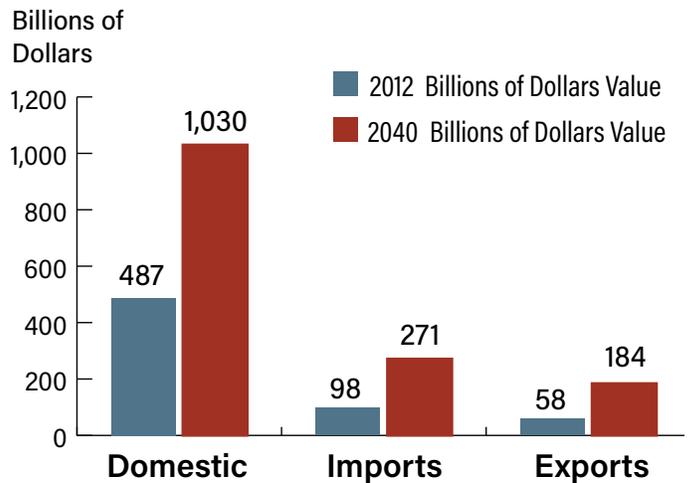
The Bay Area Express Lane network was cited in a 2017 U.S. Treasury Infrastructure Report as one of 40 nationwide projects of major economic significance. (Photo: Noah Berger)

Bay Area Goods Movement

Federal investment in our global gateways can help support good middle-class jobs for Bay Area workers and keep Bay Area companies competitive.

The Bay Area's goods movement infrastructure includes the nation's fifth-busiest container port (the Port of Oakland) and several specialized seaports, two of the most active cargo airports in the western U.S. (San Francisco International Airport and Oakland International Airport), major rail lines and terminals, and highways that carry some of the highest truck volumes in California. Increasing demand from shippers, truck drivers, Bay Area companies and global traders puts pressure on this infrastructure.

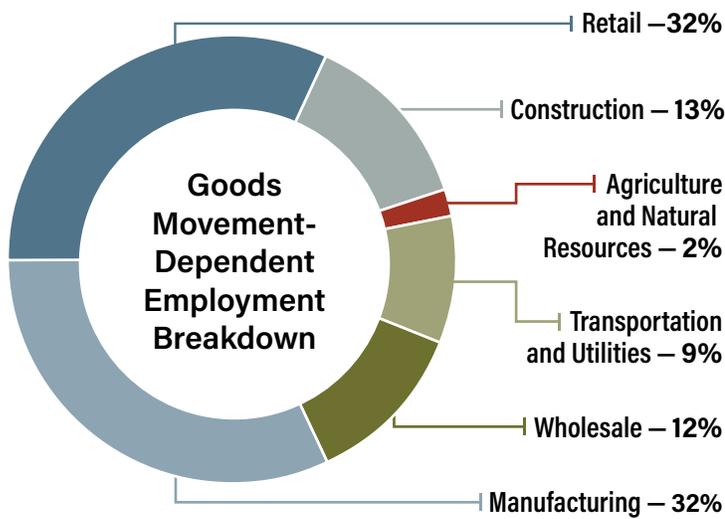
Bay Area Freight-Flow Values by Trade Type, 2012 and 2040



Source: FAF3.

Bay Area Goods Movement — Dependent Employment (2011)

Total Employment 100% = 3.4 million



Source: Plan Bay Area (2013); Center for Continuing Study of the California Economy (CCSCE) and Cambridge Systematics, Inc. analysis.

MTC and our regional partners — including Alameda County and the Port of Oakland — have identified \$3.2 billion in funding needs for Bay Area freight system improvements. This funding was identified as part of MTC's recent San Francisco Bay Area Goods Movement Plan, which prioritized a set of projects and programs to improve the region's goods movement system in a way that is sustainable and equitable.



(Photo: Ernest Lehman)



Trucks wait in line at the Port of Oakland. (Photo: Peter Beeler)

Federal Goods Movement Funds

The FAST Act formula-based National Highway Freight Program and the competitive Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE) grants together commit \$10.8 billion nationwide over five years. When leveraged with local, state and private funding sources, these funds offer a great opportunity to relieve chokepoints in the Bay Area’s trade corridors.

MTC endorsed three priority projects from the Goods Movement Plan for the highly competitive 2016 FASTLANE Grants (see the table at right). California was awarded only one grant, and no Bay Area projects were selected in the first round of grant awards. MTC looks forward to working with our regional partners and congressional delegation to expand federal goods movement funding and secure FASTLANE awards in future years.

Bay Area 2016 FASTLANE Grant Requests

Sponsor	Project	FASTLANE Request (Millions)
Port of Oakland	Ground Operations at the Port of Oakland: Roads, Rails and Technology (GoPort!)	\$140
Caltrans, Solano Transportation Authority	I-80/680 Interchange Improvements	\$124
Sonoma County Transportation Authority, Caltrans	US-101 Marin-Sonoma Narrows (MSN), Segments C2 and B2 Phase 2	\$73
TOTAL		\$337

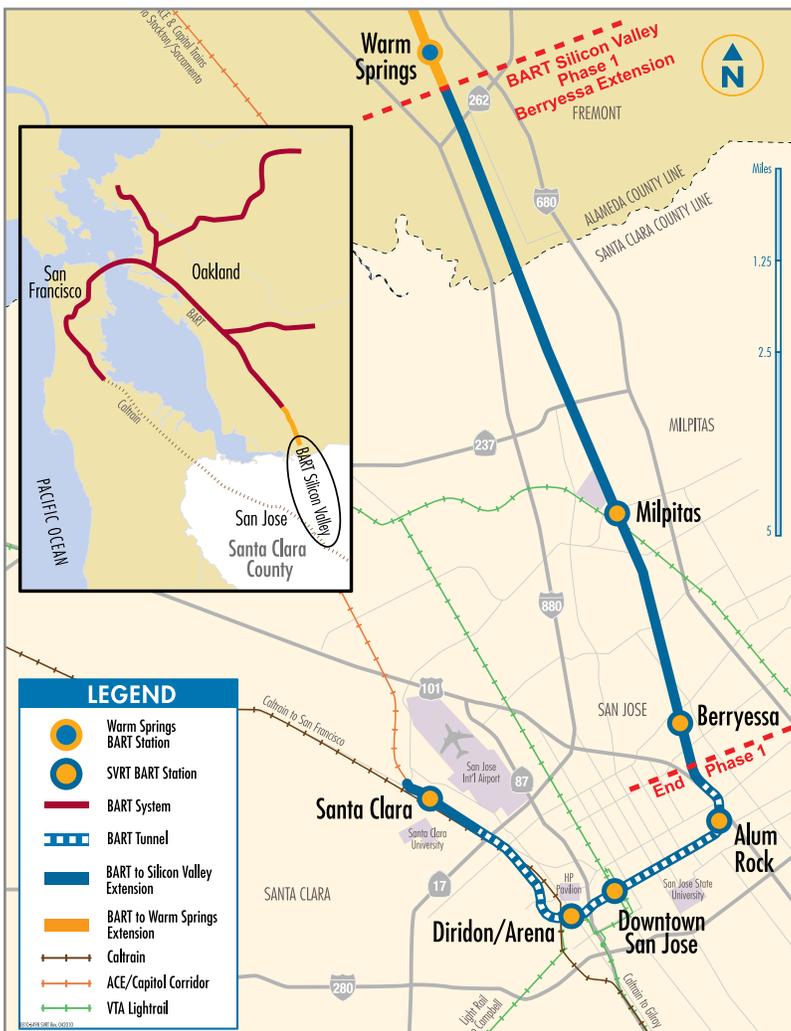
Fiscal Years 2017 and 2018 Appropriations: New Starts Request

The Bay Area is making great progress on two game-changing rail extensions. Thanks to strong funding commitments from local, state and federal partners, BART Silicon Valley, Phase 1 and San Francisco’s Central Subway projects are slated to open in 2017 and 2019, respectively. MTC urges Congress to ensure these high-priority regional projects receive appropriations consistent with commitments outlined in federal full funding grant agreements (FFGAs).

BART Silicon Valley, Phase 1

BART Silicon Valley is a 16-mile, six-station extension of the Bay Area Rapid Transit (BART) system from its current terminus in Fremont to Silicon Valley. The Berryessa Extension project (Phase 1 of 2) consists of a 10-mile

extension into San Jose and two stations — Milpitas and Berryessa. Trains with frequencies of approximately 15 minutes will operate during peak commute periods on two BART lines: the Green Line (Berryessa–Daly City) and Orange Line (Berryessa–Richmond).



The 10-mile BART extension will link Bay Area residents to major Silicon Valley employers.

(Source: VTA)

Construction work on Phase 1 is about 95 percent complete and systems testing has begun. The project is trending about 10 months ahead of schedule and is under budget. Phase 1 is expected to be finished and open for revenue service in late 2017.

MTC urges Congress to appropriate \$100 million in fiscal year (FY) 2017 for the Berryessa Extension, consistent with the FFGA, and \$97 million in FY 2018 to provide the final installment of federal funds for the project.



BART Warm Springs/South Fremont Station.
(Photo: Karl Nielsen)

San Francisco's Central Subway

San Francisco's Central Subway project continues to progress with the construction of four stations and tunnels scheduled through 2018. When open for revenue service in 2019, the 1.7-mile extension of Muni Metro's T Third Line will provide direct connections to major retail, sporting and cultural venues while efficiently transporting people to jobs, educational opportunities and other amenities between the South of Market, downtown and Chinatown communities. MTC urges Congress to appropriate \$150 million for the project in FY 2017 and \$23 million in FY 2018 to close out the FFGA.



Progress and rendering at Union Square Market Street Station. (Image: Courtesy of SFMTA)



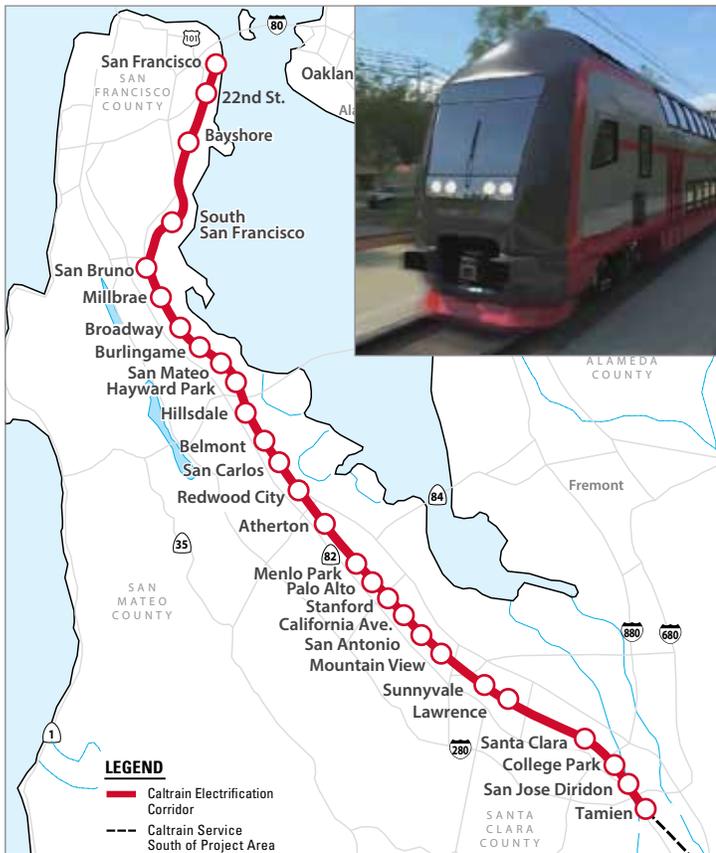
Construction of the Central Subway's Yerba Buena/Moscone Station in San Francisco. (Photo: Courtesy of SFMTA)



(Source: SFMTA)

Fiscal Years 2017 and 2018 Appropriations: Core Capacity Request

Caltrain modernization will expand service, reduce regional congestion and improve air quality.



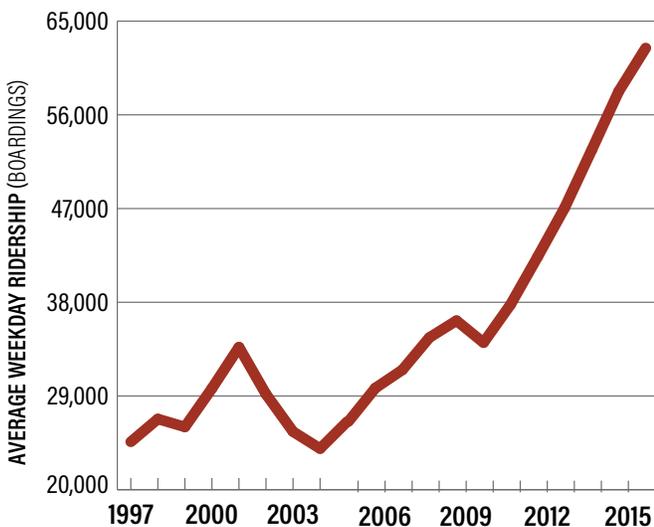
Faster acceleration and shorter headways will enable Caltrain to deliver shorter travel times and more frequent service.
(Map and Rendering: Courtesy of Caltrain)

MTC strongly supports Caltrain's request for a \$647 million FFGA and urges the Trump Administration to include the project in the President's Budget for fiscal year (FY) 2018 and Congress to approve annual appropriations from the Capital Investment Grant Program's Core Capacity funding to support the request.

Caltrain serves as a vital link for employees living in San Francisco and San Jose who work at many of the nation's most high-profile tech companies. As shown in the chart below, ridership has skyrocketed over the past decade, with demand for the service now far exceeding existing capacity. The Peninsula Corridor Electrification Project (PCEP) will transform Caltrain from an old-fashioned diesel system to a modern railway featuring high-performance electric trains to increase capacity and deliver cleaner and quieter service.

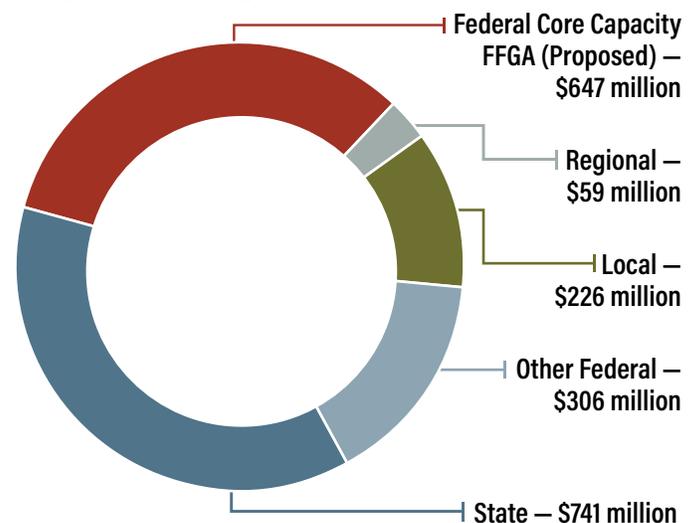
Caltrain modernization has been a long time coming. Commuter rail service began operating between San Jose and San Francisco in 1863 — when Abraham Lincoln was president — and Caltrain has been planning for the electrification project for more than two decades.

Caltrain Ridership Growth, 1997–2016



Source: Caltrain.

Peninsula Corridor Electrification Project Funding

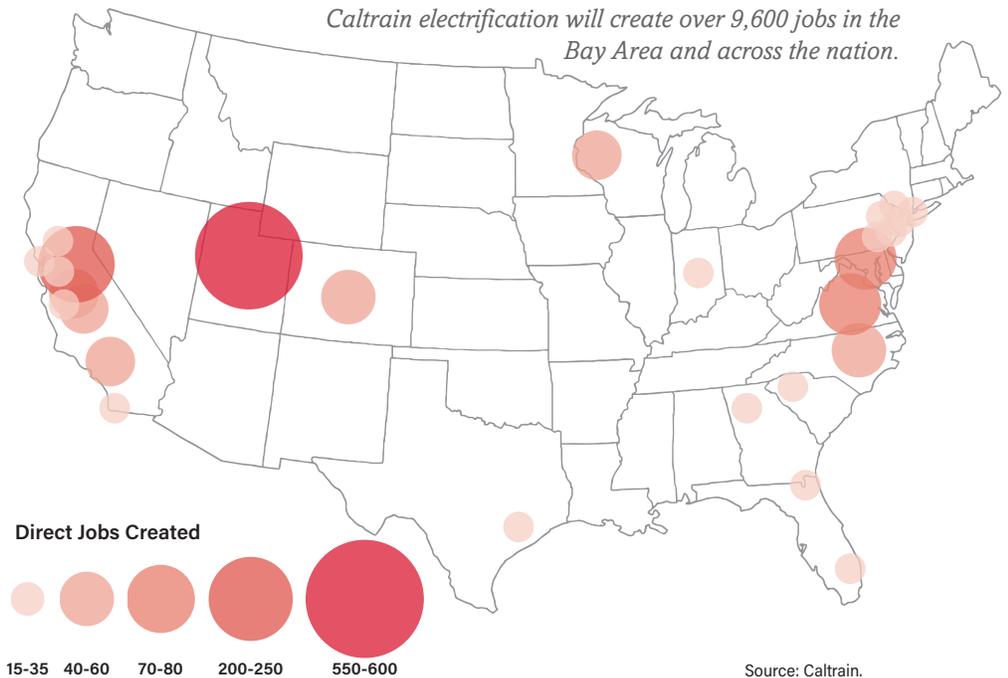


Source: Caltrain.

Electrification will be the most transformative effort ever undertaken on the Caltrain Corridor and will deliver unique economic, environmental and mobility benefits as a project of independent utility from other improvements planned on the corridor.

PCEP will help create over \$2.5 billion in economic value and address one of the Bay Area's principal barriers to economic growth by eliminating over 619,000 daily vehicle miles from busy local streets and increasingly congested Interstate 280 and U.S. Route 101. As shown in the map, the project will create over 9,600 jobs, including over 1,300 outside of California. That includes 550 jobs in Salt Lake City, Utah, where the project is the driving force behind a new domestic railcar assembly facility.

Caltrain has secured more than \$1.2 billion in local, regional, state and federal non-Core Capacity funds for this project. The only funding needed for the project to move forward is the \$647 million FFGA. In addition to the strong commitment demonstrated by the 2:1 funding match, the Bay Area's business community, labor and environmental groups, and transportation stakeholders have strongly supported the PCEP federal funding request. The project will put Americans to work and significantly increase rail-commuting capacity to Silicon Valley, one of the most economically productive areas in the United States.



Support letters for Caltrain's \$647 million FFGA request.

Future Appropriations Requests: Next Generation Transit Projects

Plan Bay Area 2040 includes an aggressive \$26 billion investment plan to improve transit connectivity between the region's population and job centers. Federal support, in the form of future New Starts and Core Capacity Capital Investment Grant Program funding, will be key to advancing three critical transit capacity expansions. Federal funds will be over-matched 2-to-1 by state and local dollars.

- ▶ BART Silicon Valley, Phase 2
- ▶ San Francisco Transbay Transit Center (Phase 2/Caltrain Downtown Extension)
- ▶ BART Transbay Core Capacity

BART Silicon Valley, Phase 2

With BART Silicon Valley, Phase 1 slated for completion in late 2017, progress is being made on a second phase to extend Bay Area Rapid Transit (BART) via subway into downtown San Jose. A federal New Starts FFGA comprises 32 percent of the \$4.7 billion funding plan, as shown in the table on page 13.

In early 2016, the Federal Transit Administration (FTA) approved BART Silicon Valley, Phase 2 to enter into New Starts Project Development. The draft environmental document is being circulated now, with the final environ-

mental document's preparation expected to be completed later this year. The project is scheduled to receive a Record of Decision from FTA in December 2017.

The six-mile extension includes five miles of tunnel and four stations (Alum Rock, Downtown San Jose, Diridon Station and Santa Clara). Once completed, the 16-mile BART Silicon Valley extension will be a new transit option serving downtown San Jose, San Jose State University, HP Pavilion, Santa Clara University, major employment and shopping centers, and potentially, high-speed rail.

San Francisco Transbay Transit Center (Phase 2/Caltrain Downtown Extension)

The second phase of the Transbay Transit Center Project, commonly referred to as the Downtown Rail Extension or DTX, will modify the existing Caltrain station at Fourth and King Streets, including adding a new adjacent underground station at Fourth and Townsend Streets, and extend the Caltrain rail line downtown 1.3 miles to the new Transit Center near the heart of the Financial District. Phase 2 of the Transbay Program will also include the buildout of the below-grade train station facilities at the Transit Center, a BART/Muni pedestrian tunnel and an intercity bus facility.

The underground rail line is being designed to accommodate potential high-speed rail and other rail connections to the East Bay, making the new Transit Center a future hub — like the Diridon Station — for rail service in Northern California. The project is seeking a \$1 billion New Starts FFGA, as shown in the table on page 13.



BART will connect with future high-speed rail at the planned Diridon Station in San Jose. (Rendering: Courtesy of VTA)

Next Generation Transit Funding Plans (Billions)

	Committed Funding	FFGA Anticipated	Other Funding	Total Project Cost	FFGA Share
BART Silicon Valley Phase 2	\$2.5	\$1.5	\$0.7	\$4.7	32%
San Francisco Transbay Transit Center (Phase 2/Caltrain Downtown Extension)	\$0.8	\$1.0	\$2.1	\$3.9	26%
BART Transbay Core Capacity	\$1.3	\$0.9	\$0.9	\$3.1	29%

Note: "Other Funding" refers to a variety of local, state and federal funds that would be committed to the project.

Source: VTA, BART and MTC.



An aerial rendering of the future Transbay Transit Center. (Rendering: Pelli Clarke Pelli. Courtesy of Transbay Joint Powers Authority (TJPA))



BART Transbay Core Capacity Project

BART ridership continued to grow in 2016, averaging 27,000 riders each hour during the transbay morning commute. While this robust growth is good news, the system is at capacity during the peak, compromising the region's continued economic growth and mobility.

BART's Transbay Core Capacity Project ultimately will boost transbay capacity by 30 percent from 23 trains/hour to 30 trains/hour in both directions. The project includes a communication-based train control system to reduce headways, a railcar fleet expansion, increased vehicle storage capacity and added traction power capacity to support higher frequencies and longer trains. The preliminary cost estimate for the project is \$3.1 billion.

BART is completing work on Project Development and will apply for FTA approval into the Engineering phase in summer 2017. BART anticipates seeking an FFGA in 2019.

MPO Coordination Rule Could Undermine Transparent and Effective Regional Planning

In December 2016, the U.S. Department of Transportation finalized a rule that could require more than 140 metropolitan planning organizations (MPOs) around the nation to merge with neighboring MPOs. Short of a merger, the MPOs would be required to adopt joint plans and transportation funding priorities covering vast geographic areas with distinct regional identities.

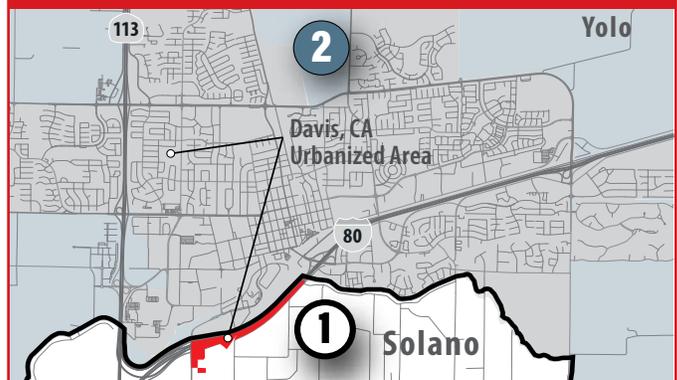
This rule would affect MTC because of the vanishingly small overlap of MTC's planning boundary with adjoining MPOs in Yolo and Santa Cruz counties. In MTC's case, this would result in an unwieldy 17-county mega-planning area with a total population of over 10 million. This threatens to degrade the existing planning process, increase costs, and reduce transparency and accountability to Bay Area residents.

The final rule allows the Secretary of Transportation to waive implementation under specified conditions, including when there is the support of all affected MPOs and the governor. While this additional flexibility is welcome, MTC remains concerned that the ability to retain its distinct nine-county geography now depends on a discretionary approval from Washington, D.C.

MTC joined with large MPOs across California, including the Southern California, Sacramento and San Joaquin regions, to oppose the rule and to urge for a more sensible approach targeted at MPOs where the overlap comprises at least 100,000 people or five percent of an MPO's population, whichever is higher. While there are important planning assumptions and considerations that ought to be made between neighboring MPOs, the rule represents a major regulatory overreach.

MTC urges Congress to halt this rule's implementation and instead work with MPOs in the next transportation authorization to address outstanding coordination concerns.

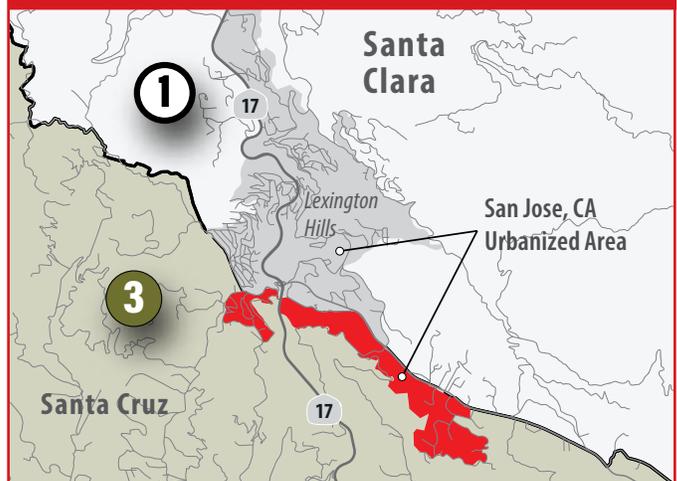
MTC and SACOG Urbanized Areas Overlap



Portion Within MTC MPO Boundary

Land Area: **0.20 sq mi.**
 Population in 2016: **0**
 Percent of MPO Land Area: **0.003%**
 Share of MPO Population: **0%**

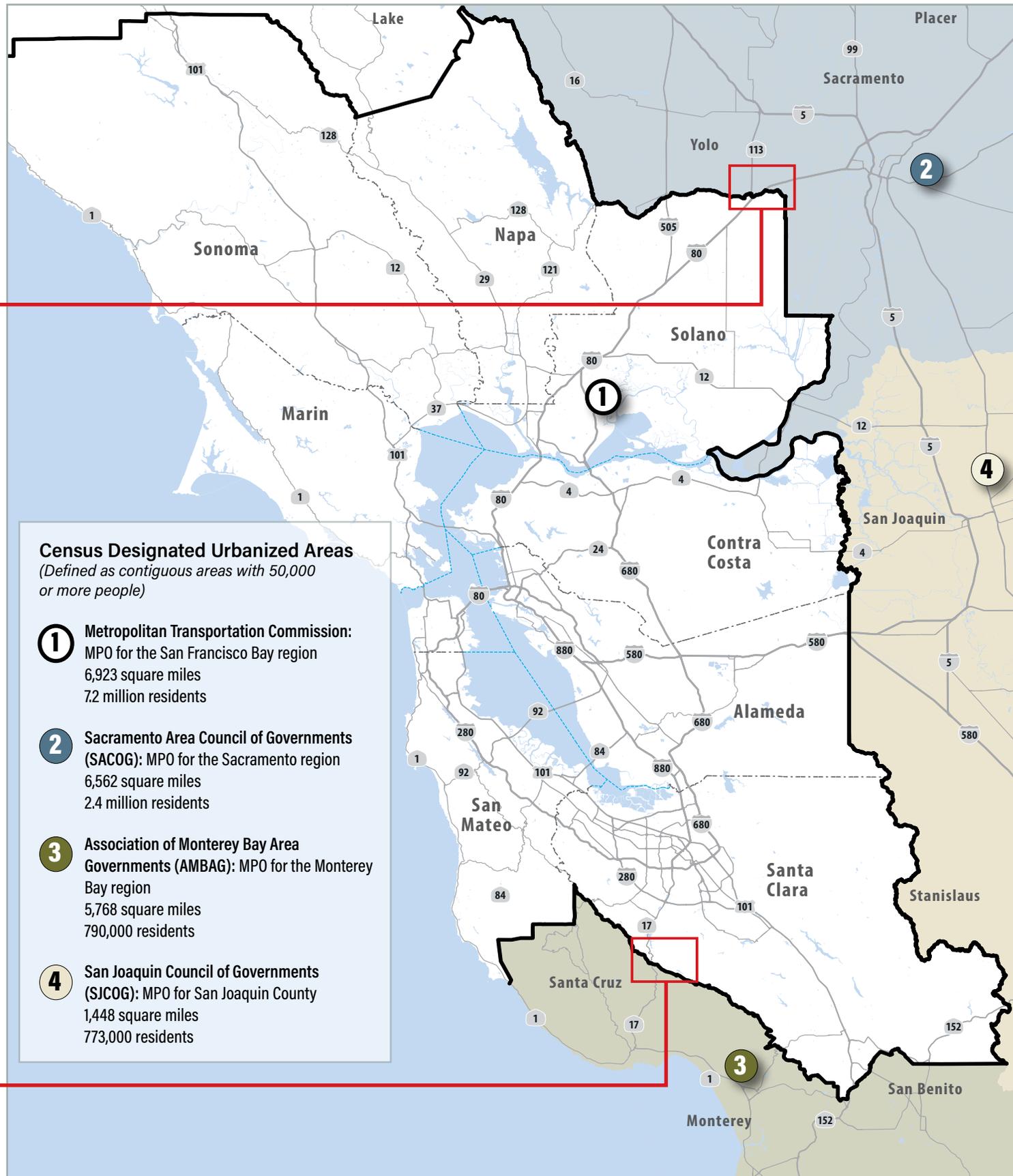
MTC and AMBAG Urbanized Areas Overlap



Portion Within AMBAG MPO Boundary

Land Area: **1 sq mi.**
 Population in 2016: **625**
 Percent of MPO Land Area: **0.02%**
 Share of MPO Population: **0.08%**

Urbanized Areas Crossing Metropolitan Planning Area Boundaries



Plan Bay Area 2040

Later this year, MTC and the Association of Bay Area Governments (ABAG) expect to adopt Plan Bay Area 2040, a regional roadmap for accommodating projected household and employment growth as well as a transportation investment strategy.

MTC in 2016 was recertified by the U.S. Department of Transportation, reaffirming that MTC is fulfilling our responsibilities as the Bay Area's federally designated metropolitan planning organization. One of those responsibilities is to adopt a long-range plan.

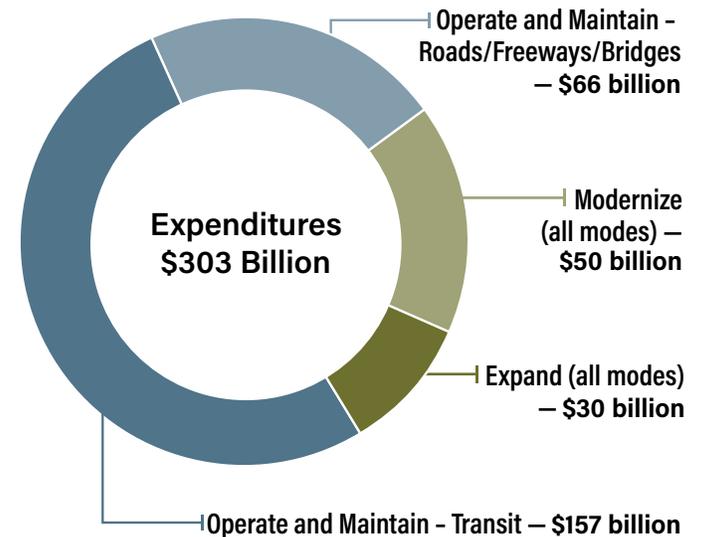
Plan Bay Area 2040 (the Plan) also meets the requirements of California's landmark greenhouse gas reduction law, Senate Bill 375 (Steinberg, 2008), which requires each of the state's 18 metropolitan regions to develop a strategy to reduce greenhouse gas emissions from cars and light truck travel, including planning for adequate housing near jobs and transit to accommodate expected population growth.

Projecting continued regional prosperity, Plan Bay Area 2040 anticipates the Bay Area's population will grow by 33 percent, from 7.2 million to 9.6 million residents by 2040 — the equivalent of absorbing almost the entire population of Chicago. In that same time period, the region is expected to add 1.3 million new jobs. The Plan sets forth an investment strategy for \$303 billion in anticipated funding for the region through 2040. Federal revenues account for about 10 percent of planned expenditures.

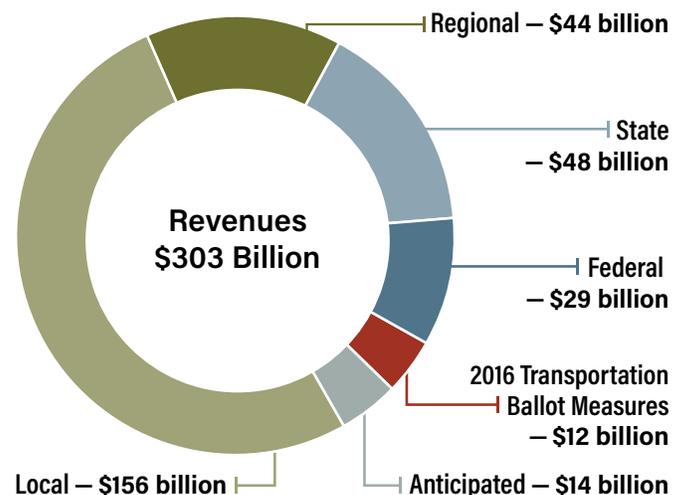
A Focused-growth Approach

The Plan lays out a strategy for meeting 77 percent of the region's future housing needs in Priority Development Areas (PDAs), which are existing neighborhoods served by public transit that are appropriate for smart, compact development as recommended by local cities. PDAs place less development pressure on the region's vast and varied open spaces and agricultural lands.

Total Plan Bay Area 2040 Expenditures (\$ in billions of year of expenditure)



Plan Bay Area 2040 Revenue Envelope (\$ in billions of year of expenditure)



Transportation Investment Strategy

A well-maintained, multimodal transportation system is fundamental to supporting the Bay Area’s booming economy. To that end, the Plan directs \$223 billion, or 74 percent of available funds, to keeping the current transportation system in working order.

Although the Plan fully funds current transit service levels through 2040, there remains a \$15 billion state of good repair shortfall.

Federal revenues will be particularly important to the Plan’s \$80 billion modernization and expansion strategy. The table below lists the region’s top investment priorities. Six of the 10 projects are receiving or anticipate receiving billions of dollars in future federal funding from the Capital Investment Grant program, as highlighted below.

“Top 10” Plan Bay Area 2040 Investments

Project	Total Project Cost (Millions)	Capital Investment Grant Request* (Millions)
California High-Speed Rail (Bay Area Segment)	\$8,500	
Bay Area Express Lane Network	\$5,900	
BART to Silicon Valley (Phase 2)	\$5,500	\$1,500
Transbay Transit Center/Caltrain Downtown Extension (Phase 2)	\$4,300	\$1,000
Transbay Core Capacity Project	\$3,100	\$900
BART to Silicon Valley (Phase 1)*	\$2,500	\$197
Caltrain Electrification (Phase 1)**	\$2,400	\$647
Transbay Transit Center (Phase 1)	\$2,300	
Presidio Parkway	\$1,600	
San Francisco Central Subway***	\$1,600	\$173

* The project received a \$900 million commitment; \$197 million will close out the FFGA.

** The Federal Transit Administration has signed a letter of intent for the FFGA.

*** The project received a \$942 million commitment; \$173 will close out the FFGA.

Regional Measure 3

Bay Area residents have time and again taken bold action in response to regional transportation challenges. Voters approved Regional Measure 1 (1988) and Regional Measure 2 (2004), raising tolls on the Bay Area’s seven state-owned toll bridges and delivering dozens of the most important regional transportation investments of the past generation. With these projects now completed or under construction, MTC is working with our Bay Area delegation in Sacramento to give voters a chance to consider a third regional toll bridge measure in 2018 for the Bay Area’s next generation of bridge corridor improvements.

Transportation and Housing Ballot Measures

This past November, Bay Area residents demonstrated strong support for better transit service, smoother commutes and more affordable housing. Voters from around the region approved billions of dollars in sales tax and bond measures for a range of transportation and housing infrastructure improvements.



Key	Measure	Revenue Estimate (\$ millions)
1	Santa Clara Valley Transportation Authority Sales Tax	\$6,500
2	BART Infrastructure Bond	\$3,500
3	Santa Clara County Affordable Housing Bond	\$950
4	AC Transit Parcel Tax	\$600
5	City of Oakland Infrastructure Bond	\$600

Regional Housing Crisis Exacerbates Transportation Challenges

The Bay Area’s current housing and transportation crisis reflects the cumulative impacts of decades of neglect and a robust job market.

Since 2011, the region has added more than 500,000 jobs but only 65,000 new housing units, creating the most expensive housing market in the country. Residents are moving farther and farther away from job centers, contributing to record levels of freeway congestion.

Federal Funding Request

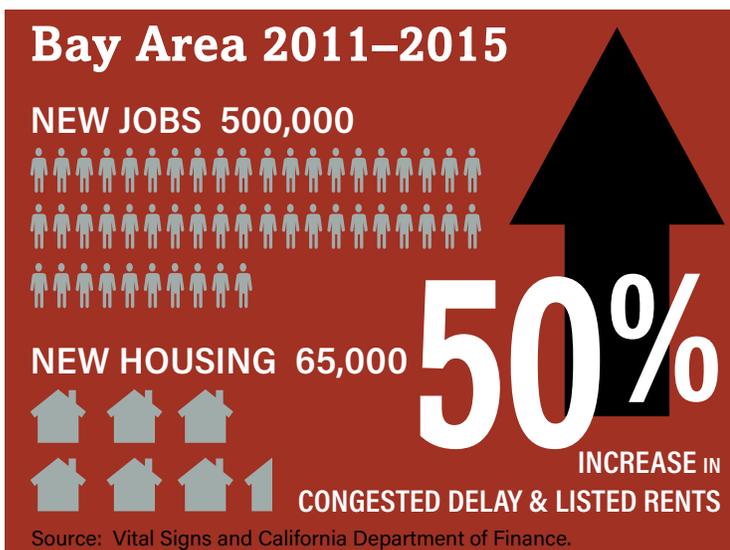
The Bay Area’s middle class and low-income households are hurt disproportionately by the housing shortage. Far too many families struggle to pay rent. In Richmond, for example, a person earning minimum wage must work three full-time jobs to afford rent for a two-bedroom unit. Steep cuts in federal and state investment have left affordable housing programs underfunded, limiting new production of affordable units.

Bay Area voters passed a number of county housing bonds last November, but those will not come close to meeting estimated needs. MTC urges Congress to reinvest in affordable housing programs and expand the oversubscribed Low-Income Housing Tax Credit Program to increase affordable housing supply in the region.

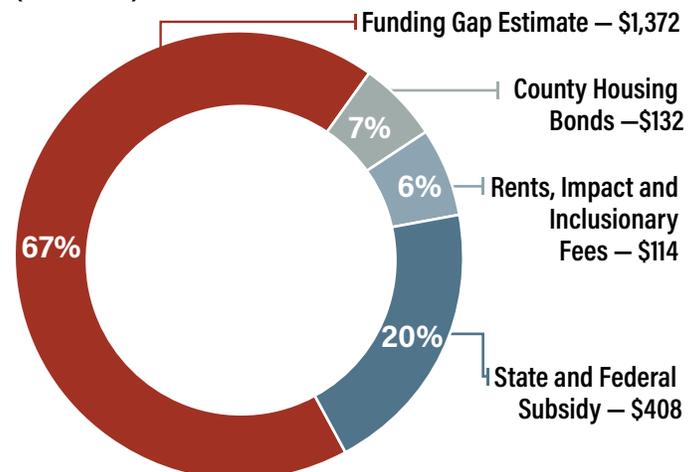
MTC’s Growing Role

Since 1997, MTC has leveraged flexible federal transportation funding to increase housing supply in transit-accessible neighborhoods. In the face of the current crisis, the Commission is pursuing new strategies, including a comprehensive staff consolidation of MTC and the Association of Bay Area Governments (ABAG), to better align regional transportation and land use planning.

In early 2017, MTC and ABAG launched the Committee for Affordable and Sustainable Accommodations (CASA). This regional blue-ribbon housing committee — comprised of leaders from the housing, equity, business, environment and transportation sectors — will develop a Regional Housing Implementation Strategy to address the Bay Area’s chronic housing affordability challenges. MTC will continue to explore opportunities to be a part of the regional housing solution.



Bay Area’s Housing Funding Gap (millions)



Note: Annual funding needed to construct low- and moderate-income units, as determined in the 2015–2022 Regional Housing Needs Allocation.



MTC'S EVOLVING LAND USE INITIATIVES

The FAST Act preserved flexibility in the STBG and CMAQ programs, empowering local decision-makers to innovate in response to unique local challenges. Over the past two decades, MTC increasingly has used these flexible programs to reward cities and provide incentives for housing production through initiatives such as:

Transportation for Livable Communities (TLC)

\$250 million in planning and capital grants to improve connectivity between housing and public transit.

(1997–2011)

Transit-Oriented Development (TOD) Policy

Conditions regional discretionary funds for transit expansion on transit-supportive zoning.

(2001)

Transit-Oriented Affordable Housing (TOAH)*

\$10 million commitment to seed a \$50 million revolving loan fund to finance land purchases for affordable housing near transit.

(2011)

Naturally-Occurring Affordable Housing (NOAH)*

\$10 million commitment to pilot a revolving loan fund to purchase and preserve existing housing.

(2016)

Affordable Housing Jumpstart*

\$10 million loan program to reward Bay Area counties that have voter-approved affordable housing funds.

(2016)

One Bay Area Grant (OBAG)

\$715 million in discretionary transportation grants to county-level congestion management agencies over 10 years. Funding directly rewards permitting and construction of new housing.

(2013–2022)

* Made possible through local funding exchanges

Express Lanes Expand Motorists' Choices

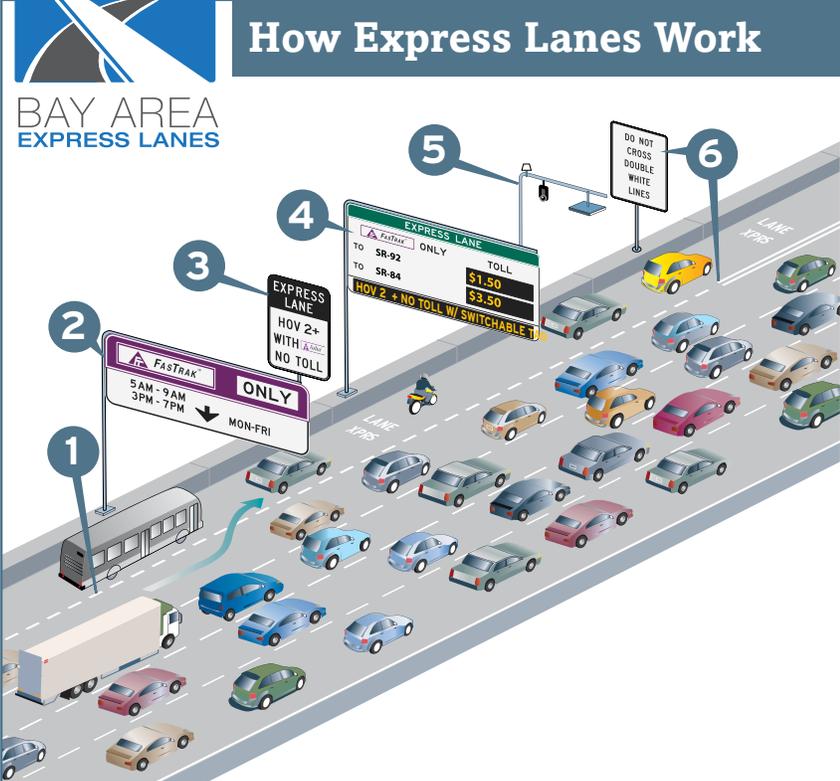
2017 will be another big year for the Bay Area's growing network of express lanes, with a new 22-mile segment along I-680 between Walnut Creek and San Ramon scheduled to open later this year. Express lanes are freeway lanes that are free for carpools, vanpools, buses, motorcycles and other high-occupancy vehicle (HOV) lane-eligible vehicles but also available to solo drivers willing to pay a toll.

MTC and its partners — including the Alameda County Transportation Commission, Contra Costa Transportation Authority, Santa Clara Valley Transportation Authority, Solano Transportation Authority, Caltrans and the California Highway Patrol — are developing a Bay Area Express Lanes network that will:

- ▶ Create a seamless network of HOV lanes to encourage carpools and transit use
- ▶ Improve the efficiency of freeway operations by maximizing use of existing HOV-lane capacity
- ▶ Deliver more reliable travel times for drivers when they cannot afford to be late

The Bay Area currently has close to 50 miles of express lanes in operation. Segments are open on I-580 in Dublin, Pleasanton and Livermore; I-680 southbound from Pleasanton to Milpitas; and State Route 237 in Milpitas and San Jose.

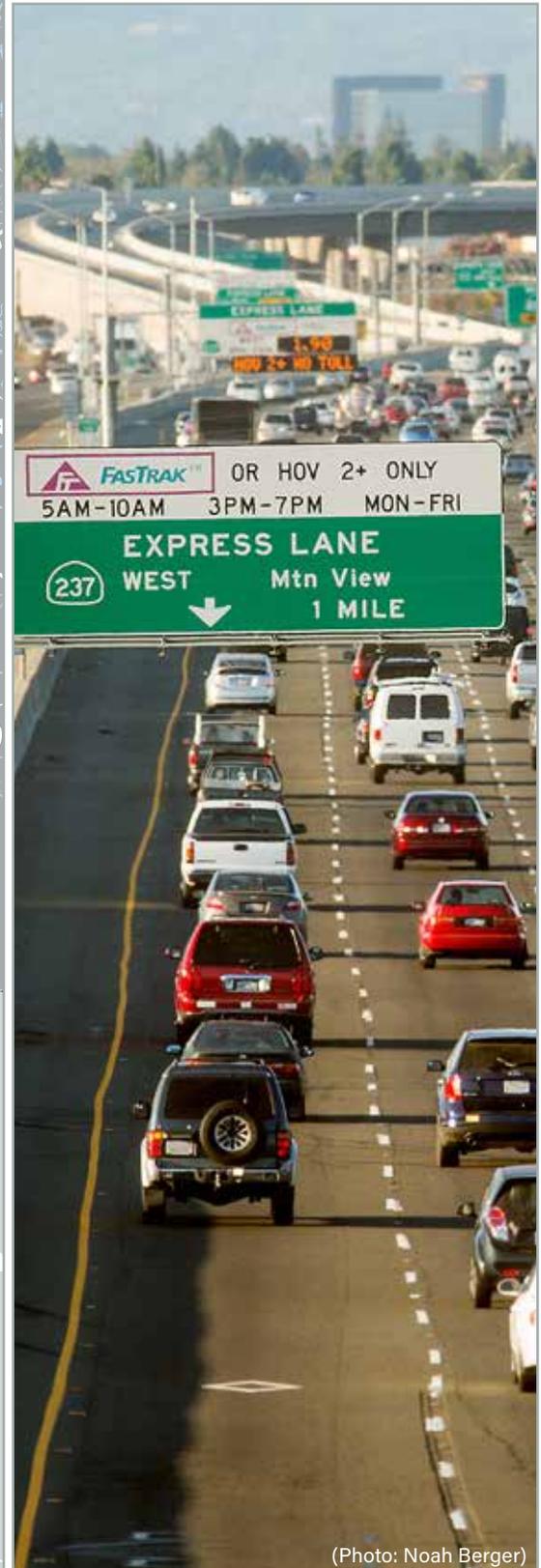
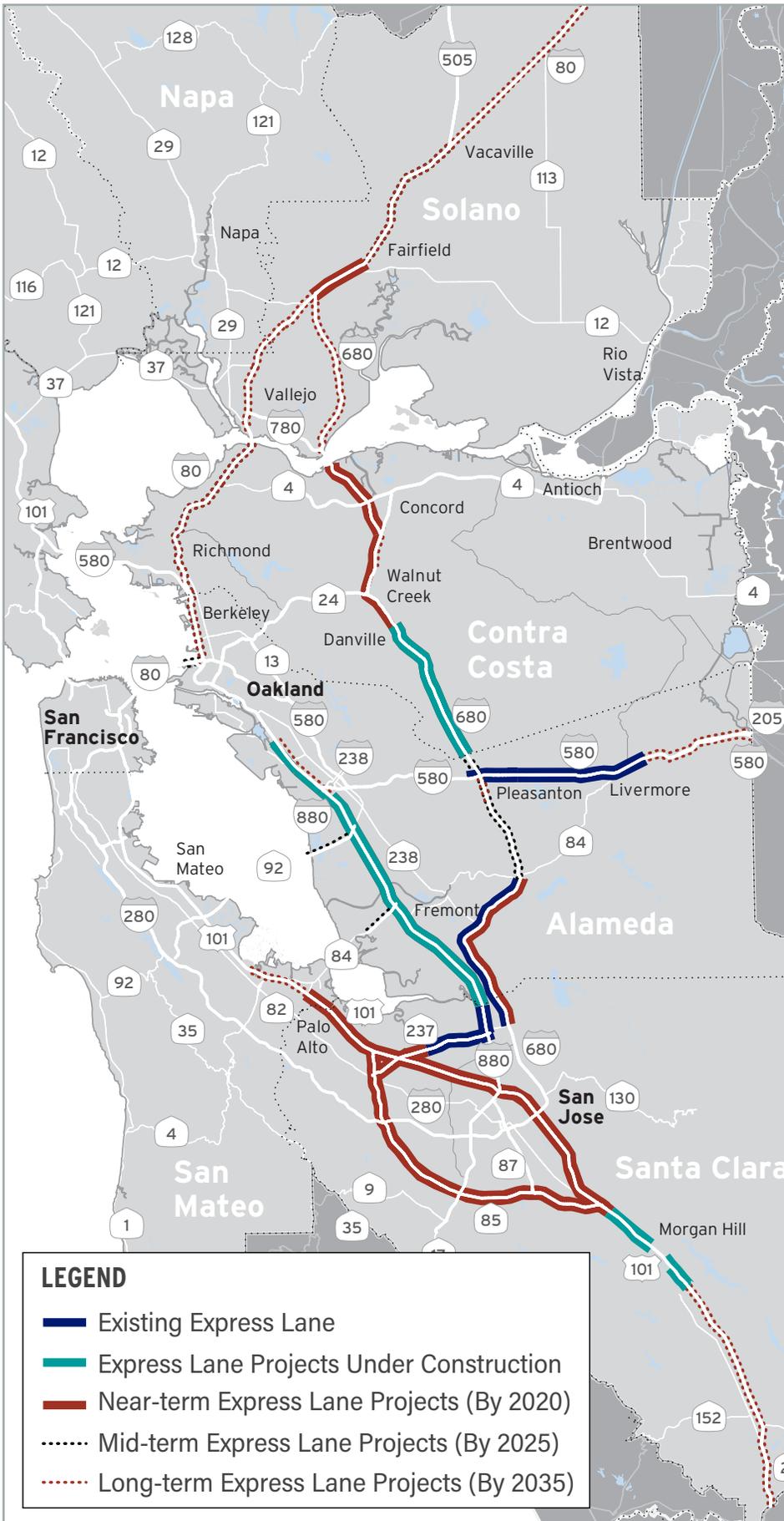
MTC will operate 270 miles of the authorized 550-mile Bay Area Express Lanes network, converting 150 miles of existing carpool lanes to express lanes and adding 120 miles of new lanes. The network expansion is expected to be completed in 2035.



How Express Lanes Work

BAY AREA EXPRESS LANES

- 1** Dashed lines show where it's OK to enter and exit the express lane.
- 2** All vehicles must have a regular or FasTrak® Flex toll tag to drive in the express lane during hours of operation.
- 3** Carpools, vanpools and other eligible vehicles with FasTrak® Flex travel toll-free. Carpool occupancy requirements may vary by lane.
- 4** Pricing signs display the toll to travel to destinations using the express lane.
- 5** Electronic toll tag readers automatically charge the appropriate tolls to a vehicle's FasTrak® account.
- 6** Double white lines show where it is illegal to enter and exit the express lane. These access limitations improve traffic flow.



(Photo: Noah Berger)

MTC Programs Harness Technology to Deliver Congestion Relief



Bay Bridge Forward investments include increased express transbay bus service. (Photo: Karl Nielsen)

Bay Bridge Forward

Last fall, MTC launched Bay Bridge Forward, a partnership with Caltrans and bus and ferry operators, aimed at relieving traffic congestion and transit crowding in the Bay Area's most congested bridge crossing.

The San Francisco-Oakland Bay Bridge carries 260,000 vehicles daily. While the bridge is at maximum vehicle capacity at the peak, an estimated 50 percent of the passenger vehicle seats are empty. A \$40 million Bay Bridge Forward investment — which includes \$19 million in federal funding — aims to fill those empty seats by en-

couraging carpooling and providing high-capacity transit to speed up travel for transbay commuters.

The Bay Bridge Forward investments include:

- ▶ **HOV enforcement:** Pilot high-occupancy vehicle (HOV) enforcement technology to reduce HOV violations
- ▶ **Integrated bridge corridor:** Integrate and optimize traffic management systems at all bridge approaches
- ▶ **Transit signal priority:** Give buses priority at traffic signals at bridge approaches
- ▶ **Casual carpool:** Establish additional casual carpooling pick-up locations at key sites
- ▶ **Flexible on-demand transit:** Provide on-demand transit services from the East Bay to job centers that are not well-served by transit
- ▶ **Shared mobility:** Continue zero-dollar partnerships with private-sector carpooling, vanpool and transit providers to increase mode-shift away from single-occupancy vehicle travel



Traffic at the Bay Bridge toll plaza with carpool lane shown at left. (Photo: MTC Archives)

Connected and Autonomous Vehicles

MTC works in partnership with stakeholders throughout the Bay Area to support efforts related to connected and autonomous vehicle deployment. Connected vehicles (CVs) are vehicles that use a number of technologies to communicate with the world around them, including other cars on the road and roadside infrastructure. A fully automated vehicle (AV) — or self-driving vehicle — must also be a CV. MTC's goal is to accelerate mobility, safety and economic benefits as these technologies are more fully integrated into fleets operating on public infrastructure.

MTC is researching the impacts of vehicle automation on travel demand for incorporation in future regional transportation plans. MTC plans to deploy CV infrastructure in the region on a pilot basis. MTC also tracks legislative and policy developments and supports local agencies in their



Lexus RX450h retrofitted by Google for its driverless car fleet.
(Photo: Wikipedia, Creative Commons 2.0 Generic Attribution)

AV efforts. A variety of AV projects are underway in the Bay Area, including:

- ▶ GoMentum station, a testing facility for automated vehicles in Contra Costa County: In January 2017, the United States Department of Transportation (USDOT) designated the facility as a designated proving ground site
- ▶ The federally-funded California Connected Vehicle test bed, deployed by Caltrans in Santa Clara County with support from MTC
- ▶ A low-speed, driverless automated shuttle in a San Ramon business park
- ▶ An autonomous shuttle from Treasure Island to San Francisco, which will be funded partially with an \$11 million USDOT technology deployment grant



MTC Partners With Shared Mobility Providers

While MTC has long promoted carpooling, new carpool and rideshare apps have the potential to be game-changers by more easily matching drivers and riders in real time via any mobile device.

MTC is promoting carpooling by partnering with private companies seeking to fill up all those empty car seats. These partners, including Scoop, Carzac, MuV, Duet, Carma and Lyft Carpool, facilitate carpooling by providing a competitively priced regional carpool option for long-distance commuters and a modest incentive for solo-drivers to carpool instead.

MTC to Expand Bike Share

Bay Area Bike Share's expansion is well underway. By 2018, the regional bike sharing system will have transformed from a limited 700-bike pilot program into a robust 7,000-bike regional transportation option.

This tenfold expansion was made possible by a public-private partnership between MTC and Motivate, a global leader in bike share operations. Ford Motor Company will sponsor the new regional system, which will be renamed Ford GoBike. The buildout — equipment, installation and ongoing staff operations — will occur at no public cost. As part of the region's ongoing commitment to social equity, nearly half of the planned East Bay stations will be sited in Communities of Concern, and low-income residents will be able to purchase \$5 first-year memberships with cash transactions.

The first East Bay stations will be operational this summer in Oakland's Fruitvale, San Antonio and West



Bay Area Bike Share will grow to become the second largest bike sharing system in North America.

(Photo: Courtesy of Bay Area Bike Share)

Oakland neighborhoods; Berkeley's Southside, North Berkeley and West Berkeley neighborhoods; and Emeryville. When complete, the system will extend to Berkeley, Emeryville, Oakland, San Francisco and San Jose.

“Resilient by Design” Looks at Innovative Ways to Hold Back the Tides

Sea level rise is an impending threat in the Bay Area where many communities and some of our most critical infrastructure — including all three airports — have been built along the coast. “Bay Area: Resilient by Design” is one innovative way the region proactively is seeking solutions.



Aerial view of the San Francisco Bay and cityscape.

(Photo: heyengel/istock)

This \$5.8 million community-driven competition will challenge the world's top designers, architects, environmental engineers, developers and infrastructure finance experts to imagine design solutions for ten at-risk locations along the San Francisco Bay shoreline. The winning teams then will work directly with Bay Area residents to further develop and implement sustainable adaptation strategies.

A diverse set of Bay Area partners, including MTC and the Bay Area Regional Collaborative (BARC), are spearheading Resilient by Design, which is funded primarily through a \$4.6 million Rockefeller Foundation grant. This design challenge is one piece of an aggressive and coordinated effort to understand and ultimately prepare for the impacts of climate change. Moving forward, the region will require strong support from our federal partners to build more resilient infrastructure.

Bay Area Partnership

MTC works in partnership with the top staff of various transportation agencies, environmental protection agencies, and local and regional stakeholders, listed here.

Transit Operators

Alameda-Contra Costa Transit District (AC Transit)

Michael Hursh 510.891.4753

Bay Area Rapid Transit District (BART)

Grace Crunican 510.464.6060

Bay Area Water Emergency Transportation Authority (WETA)

Nina Rannells 415.291.3377

Central Contra Costa Transit Authority (County Connection)

Rick Ramacier 925.680.2050

Eastern Contra Costa Transit Authority (Tri Delta)

Jeanne Krieg 925.754.6622

Fairfield and Suisun Transit (FAST)

Nathaniel Atherstone 707.434.3804

Golden Gate Bridge, Highway & Transportation District

Denis J. Mulligan 415.923.2203

Livermore/Amador Valley Transit Authority (WHEELS)

Michael Tree 925.455.7555

Marin County Transit District (Marin Transit)

Nancy Whelan 415.226.0855

San Francisco Municipal Transportation Agency (SFMTA)

Edward D. Reiskin 415.701.4720

San Mateo County Transit District (SamTrans)/ Peninsula Corridor Joint Powers Board (Caltrain)

Jim Hartnett 650.508.6221

Santa Clara Valley Transportation Authority (VTA)

Nuria Fernandez 408.321.5559

Santa Rosa Transit Division (Santa Rosa CityBus)

Beth Kranda 707.543.3331

Solano County Transit (SolTrans)

Mona Babauta 707.648.4047

Sonoma County Transit

Bryan Albee 707.585.7516

Transbay Joint Powers Authority

Mark Zabaneh 415.597.4620

Western Contra Costa Transit Authority (WestCAT)

Charles Anderson 510.724.3331

Airports and Seaports

Port of Oakland

Chris Lytle 510.627.1100

Livermore Municipal Airport

Leander Hauri 925.960.8220

Regional Agencies

Association of Bay Area Governments

Brad Paul 415.820.7900

Bay Area Air Quality Management District

Jack P. Broadbent 415.749.5052

Metropolitan Transportation Commission

Steve Heminger 415.778.6700

San Francisco Bay Conservation and Development Commission

Larry Goldzband 415.352.3600

Congestion Management Agencies

Alameda County Transportation Commission

Arthur L. Dao 510.208.7400

Contra Costa Transportation Authority

Randell H. Iwasaki 925.256.4724

Transportation Authority of Marin

Dianne Steinhauser 415.226.0815

Napa Valley Transportation Authority

Kate Miller 707.259.8634

San Francisco County Transportation Authority

Tilly Chang 415.522.4800

City/County Association of Governments of San Mateo County

Sandy L. Wong 650.599.1406

Santa Clara Valley Transportation Authority (VTA)

Carolyn Gonot 408.321.5713

Solano Transportation Authority

Daryl K. Halls 707.424.6075

Sonoma County Transportation Authority

Suzanne Smith 707.565.5373

Public Works Departments

City of San Jose

Jim Ortbal 408.535.3850

County of Sonoma

Susan Klassen 707.565.2231

County of Alameda

Daniel Woldesenbet 510.670.5456

City of San Mateo

Brad Underwood 650.522.7300

State Agencies

California Air Resources Board

Richard Corey 916.322.2990

California Highway Patrol, Golden Gate Division

Paul Fontana 707.648.4180

California Transportation Commission

Susan Bransen 916.654.4245

Caltrans

Malcolm Dougherty 916.654.6130

Caltrans District 4

Bijan Sartipi 510.286.5900

Federal Agencies

Environmental Protection Agency, Region 9

Alexis Strauss 415.947.8000

Federal Highway Administration, California Division

Vincent Mammano 916.498.5015

Federal Transit Administration, Region 9

Leslie T. Rogers 415.744.3133

Acknowledgments

PROJECT STAFF

Authors

Georgia Gann Dohrmann, Rebecca Long

Editorial Staff

Khristina Wenzinger, Julie Teglovic

Graphic Design and Production

Michele Stone

Maps

Peter Beeler

Printer

Coast Litho, Oakland, California

CREDITS

Front Cover

Upper Market Street in San Francisco – Noah Berger



METROPOLITAN TRANSPORTATION COMMISSION

Bay Area Metro Center
375 Beale Street, Suite 800
San Francisco California 94105

415.778.6700 tel
415.536.9800 fax
415.778.6769 tty/tdd

info@mtc.ca.gov
www.mtc.ca.gov